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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/576,442	05/22/2000	David A. Jackson	10473-678	2480

20277 7590 11/15/2002
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EXAMINER

CHERRY, STEPHEN J

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 11/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/576,442

Applicant(s)

JACKSON ET AL.

Examiner

Stephen J. Cherry

Art Unit

2863

– The MAILING DATE of this communication appears on the cover sheet with the corresponding address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 18 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 1-20, 36, 37 and 39-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-35, 38, 44 and 45 is/are rejected.
- 7) ☒ Claim(s) 30 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Claims 1-20, 36-37, 39-43 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,485,410 to Mastromattei. The claim describes, as would be present in the use of the device of Mastromattei:

mounting a first calibration target in a predetermined relationship to the first measuring device of the machine measuring system (in figure 1, the target is the tab on the end of the tape and the first measuring device is the tape); mounting a third measuring device in a predetermined relationship to the second measuring device of the machine measuring system (in figure 1, the third device is the body of the device above the scale on the tape and the second device may be interpreted as the corner of

the device below the tape or the rear corner of the device below the tape); and using a computer, calculating a relative measuring-device position value of the machine measuring system representing the position of the first measuring device relative to the second measuring device based on a position of the first calibration target relative to the third measuring device ('410, 10).

Claim 38 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,485,410 to Mastromattei. The claim describes, as would be present in the use of the device of Mastromattei:

for a position of a first device (in figure 1, the tab on the end of the tape) of the plurality of devices relative to a second device (in figure 1, the corner of the device below the tape or the rear corner of the device below the tape) of the of the plurality of devices, mounting near the first device a calibration device in which the position of the calibration device relative to the first device is predetermined (in figure 1, the tab at the end of the tape is mounded at the beginning of the tape);

mounting near the second device a calibration target in which the position of the calibration target relative to the second device is predetermined (in figure 1, the calibration target, the part of the body of the device above the tape is a predetermined distance from the front or back of the case);

measuring the position of the calibration device relative to the calibration target (in use, the scale of the tape is read from the part of the body of the device above the tape which represents the distance from the beginning or the tape to the target);

and using a computer ('410, col. 7, line 41 describes using the computer for conversion), determining the position of the first device relative to the second device based on: the position of the calibration device relative to the first device (in figure 1, this is shown as a length of zero), the position of the calibration target relative to the second device (in figure 1 this is shown as either zero or the length of the case); and the position of the calibration relative device to the calibration target (in figure 1, this is read from the scale on the tape).

Claims 21-29, 31-33, 35, 38, 44, and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,531,030 to Dale, Jr.

Claim 21 describes, as disclosed by Dale, mounting a first calibration target ('030, 40) in a predetermined relationship to the first measuring device ('030, 14) of the machine measuring system, mounting a third measuring device (32) in a predetermined relationship to the second measuring device (10) of the machine measuring system; and using a computer ('030, 38), calculating a relative measuring-device position value of the machine measuring system representing the position of the first measuring device relative to the second measuring device based on a position of the first calibration target relative to the third measuring device ('030, col. 3, line 35).

Claim 22 further limits claim 21, describing, a light source located near one measuring device to direct a light beam at a detector that is located near another measuring device ('030, fig. 1, 42).

Claim 23 further limits claim 21 describing:

storing a value that represents the position of the first calibration target relative to the third measuring device as a calibration value; wherein the third measuring device periodically measures a new value that represents a new position of the first calibration target, relative to the third measuring device; and if the calibration value differs from the, new value beyond an acceptable amount, then raising an alert alarm ('030, col. 4, line 22).

Claim 24 further limits claim 23 describing:

applying the difference in the calibration value and the new value to update the relative measuring-device position value ('030, col 4, line 4),

Claim 25 further limits claim 23 describing:

upon recognizing that the calibration value differs from the new value beyond an acceptable amount, recalculating the relative measuring-device position value ('030, col 4, line 4),

Claim 26 further limits claim 21 describing:

storing a value that represents the position of the first calibration target relative to the third measuring device as a calibration value, periodically measuring a new value that represents the position of the first calibration target relative to the third measuring device, if the calibration value differs from the new value beyond an acceptable amount, then raising an alert alarm ('030, col 4, line 4),

Claim 27 further limits claim 21 describing:

computing the relative measuring-device position value of the machine measuring system based on: a first relative measuring-device position value that represents a position of the second measuring device relative to the third measuring device, and a second relative measuring-device target position value that represents a position of the first measuring device relative to the first calibration target ('030, col 3, line 35 to col. 4, line 24),

Claim 28 further limits claim 27 describing:

the second relative measuring-device target position value is computed based on a position of the first calibration target relative to a second calibration target ('030, col. 3, line 35 to col. 4, line 24, mirrors 40 and 46 are mounted in a known angular offset used in computing position),

Claim 29 further limits claim 28 describing:

the position of the first calibration target relative to the second calibration target is obtained by using a fourth measuring device which provides information to calculate the position of the first calibration target relative to the second calibration target ('030, col. 4, line 7-24 describe a "known" angle between the mirrors 40 and 46, it is the opinion of the examiner that this angle could not be known unless measured by some angle measurement, this "known" angle is used in further calculations).

Claim 31 further limits claim 23 describing:

computing the relative measuring-device position value of the machine measuring system while the first measuring device and the second measuring device of the

machine measuring system are measuring targets of objects under measurement ('030, col 3, line 35 to col. 4, line 32),

Claim 32 further limits claim 21 describing:

computing a modified relative measuring-device position value of the machine measuring system while the first measuring device and the second measuring device of the machine measuring system are measuring targets of objects under measurement, and modifying measurements produced by measuring the targets of objects under measurement based on the modified relative measuring device position value of the machine measuring system ('030, col. 4, line 1-32), the modified positions are the automatically corrected values described).

Claim 33 further limits claim 32 describing:

the step of modifying measurements produced by measuring the targets of objects under measurement based on the modified relative measuring-device position value of the machine measuring system is performed only when the modified relative measuring-device position value differs from the relative measuring-device position value by more than a predetermined value ('030, col. 3, line 63, and col. 4, line 21)

Claim 35 further limits claim 21 describing:

any of the first measuring device, the second measuring device, and the third measuring device is an image-capturing device that performs measurements of objects by capturing images (030, col. 3, line 17).

Claim 38 describes, as disclosed by Dale:

for a position of a first device ('030, 10) of the plurality of devices relative to a second device ('030, 14) of the of the plurality of devices, mounting near the first device a calibration device ('030, 32) in which the position of the calibration device relative to the first device is predetermined ('030, col. 3, line 49);

mounting near the second device ('030, 14) a calibration target ('030, 40 and 46) in which the position of the calibration target relative to the second device is predetermined ('030, col. 3, line 45 to col. 4, line 32);

measuring the position of the calibration device relative to the calibration target ('030, col. 3, line 35 to '030, col. 4, line 32);

and using a computer ('030, 38), determining the position of the first device relative to the second device based on: the position of the calibration device relative to the first device , the position of the calibration target relative to the second device; and the position of the calibration relative device to the calibration target ('030, col. 3, line 35 to '030, col. 4, line 32).

Claim 44 further limits claim 21, describing:

The first calibration target is an optical target ('030, mirrors 40 and 46), and the third measurement device is an optical measuring device ('030, 32).

Claim 45 further limits claim 38, describing:

The calibration target ('030, 40 and 46) is an optical target and the calibration device ('030, 32) is an optical measurement device.

Response to Argum nts

Applicant's arguments filed 8-26-02, regarding the rejection of claims 21 and 38 over '410 to Mastromattei, have been fully considered but they are not persuasive. Applicant argues that the claims describe a machine vision measuring system, but this limitation is not in the claim. Evidence of this is the subject matter of claim 22, which describes a diverse range of technologies to implement the method.

In the rejection of claim 21, applicant argues that the limitation of performing a measurement "using a computer". As described above, '410 clearly describes using a computer for conversions in making measurements. It is the opinion of the examiner that the limitation, "using the computer", is met by any proper use of the computer, thus conversion of units from measurement is a use of the computer that meets the limitation of the claims.

Claim 38 is similarly rejected, as described above, with a mapping of the limitations of the claims to the disclosure of '410 to Mastromattei. It is the opinion of the examiner that the terms "first device", "second device", "calibration device", and "calibration target" are very broad in nature. Although, the specification describes specific implementations of these structures, claim 22 describes the implementation of the method of the invention to a broad range of technologies, making an interpretation of these terms to that described in the specification as used in a "machine vision" system improper.

Regarding applicants argument concerning the rejection of claim 21, applicant states that Dale does not **calculate a value** of relative position, however Dale explicitly describes mirrors (40, 42) that have known angular relationships ('030, col. 4, line 7 to

24) to a device ('040, 14), and a sensor that use a programmable control means to arrive at angular position, a type of relative position.

Allowable Subject Matter

Claims 30 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Cherry whose telephone number is (703) 305-0425. The examiner can normally be reached on M-F 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703) 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0719.

SJC
November 6, 2002


John Barlow
Supervisory Patent Examiner
Technology Center 2800